جامعة
كلية طب دمياط
(بنين وبنات)
برنامج الطب

Summative Exam of Endocrine Module
(IMP-07-20424)
(for 2nd year students - 4th semester)
12 / 04 / 2021 (40 minutes allowed)

1-MCQs (1 mark each point):

1. **The thyroid venous plexus lies:**
   a. Between true and false capsules of thyroid gland.
   b. Deep to true capsule of thyroid gland.
   c. Outside the false capsule of the gland.
   d. Within the substance of the gland.

2. **Select the incorrect statement about the pituitary gland :**
   a. It lies in the sella turcica.
   b. It develops from two different sources.
   c. It is supplied by branches of middle meningeal artery.
   d. It is related on each side to the cavernous sinus.

3. **All the statements about the right suprarenal gland are true except:**
   a. It lies at a lower level than left suprarenal gland.
   b. Partly it lies behind the inferior vena cava.
   c. Superiorly it is related to the bare area of liver.
   d. Right suprarenal vein drains into the inferior vena cava.

4. **The Thyroid gland clasping the upper part of:**
   a. Trachea.
   b. Esophagus.
   c. Larynx
   d. Pharynx.

5. **Somatotrophs are .....**
   a. Neutral cells.
   b. Basophilic cells.
   c. Orangophils.
   d. PAS positive. -ve

6. **Parafollicular cells are .....**
   a. Polygonal.
   b. Columnar.
   c. Stellate.
   d. Squamous.

7. **About pinealocytes one of the following is false;**
   a. Have no processes.
   b. Have light basophilic cytoplasm.
   c. Have numerous gap junctions.
   d. Secrete Melatonin.

8. **Spongiocytes are cells of .....**
   a. Zona fasciculate.
   b. Zona glomerulosa.
   c. Zona reticularis.
   d. Adrenal medulla.

9. **About Alpha cells (A cells) of Islets of Langerhans one of the following is false;**
   a. Contain water soluble granules.
   b. Form 20% of the islet cells.
   c. Contain membrane bound granules.
   d. Secretes Insulin.

10. **The secretion of growth hormone is increased by**
    a. Hyperglycemia.
    b. Exercise.
    c. Somatostatin.
    d. Hypothermia.
    e. Free fatty acid.

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11. Parathyroid hormone (PTH) is accurately described by which of the following statements?

a. It is secreted in response to an increase in plasma Ca^{2+} concentration
b. It acts directly on bone cells to increase Ca^{2+} deposition
c. It acts directly on intestinal cells to increase Ca^{2+} absorption
d. It causes a decrease in cAMP concentration within renal proximal tubular cells
e. It is essential for life.

12. Which of the following hormones lower plasma calcium level?

a. Growth hormone.
b. Parathyroid hormone.
c. Calcitonin.
d. Vitamin D3.

13. A 35 years old woman is severely injured in a motor car accident and lost 20% of her blood volume. In this patient which of the following hormones is expected to be secreted in high levels?

a. Atrial natriuretic peptide.
b. Antidiuretic hormone.
c. Estrogen.
d. Insulin.

14. In the above mentioned patient; the secreted hormone will produce

a. Decreased reabsorption of water from collecting ducts of kidneys.
b. Increased reabsorption of water from collecting ducts of kidneys.
c. Vasodilation of blood vessels.
d. Increased sodium excretion in urine.

15. A 35-year-old man is placed on a high potassium diet for several weeks. Which of the following hormones is secreted in high amounts …

a. Cortisol.
b. Aldosterone.
c. Corticotropin-releasing hormone.
d. Adrenocorticotropic hormone.

16. The actions of insulin include

a. It is protein catabolic hormone.
b. It stimulates lipolysis in the adipose tissue.
c. It inhibits gluconeogenesis.
d. It inhibits lipogenesis.
e. It decreases K^+ entrance into the cells.

17. Glucocorticoid injections lead to increases in

a. Lymphocyte and lymph gland size.
b. Fibroblastic activity.
c. Protein Anabolic activity in muscle.
d. Membrane stability in mast cell and lysosomes.

18. As regards calcium homeostasis

a. The normal plasma Ca^{++} level is about 15 mg /dl.
b. The body contain 1100 g calcium about 99 % of which is present in the ECF.
c. Ionized Ca^{++} is about 5 mg /dl and it is the active part.
d. It is absorbed from the intestine under the effect of calcitonin.
e. It is reabsorbed from distal tubule by aldosterone.

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19. Which of the following actions performed by thyroid hormone is incorrect?
- a. Increases BMR.
- b. Increases heart rate.
- c. Decreases erythropoiesis.
- d. Increases intestinal motility.
- e. Essential for brain development.

20. Which of the following is not associated with increased secretion of Thyroid-stimulating hormone (TSH)?
- a. After partial removal of the thyroid gland.
- b. In infants born without a thyroid gland.
- c. When metabolic rate falls.
- d. When the diet is deficient in iodine.

21. Somatostatin secreted by the pancreas is considered paracrine because it acts on .....
- a. The hypothalamus to inhibit or activate the secretion of other hormones.
- b. The cells that secrete it.
- c. Distant target organs.
- d. Cells other than those that secrete it.

22. G-proteins are .....
- a. Monomers.
- b. Dimers.
- c. Trimers.
- d. Tetramers.

23. The secretion of parathyroid hormone is a good example of .....
- a. Pituitary gland stimuli.
- b. Hypothalamic stimuli.
- c. Neural stimuli.
- d. Hormonal stimuli.
- e. Humoral stimuli.

24. The nucleotide binding site of G-proteins is present on their
- a. α-Subunit
- b. β-Subunit
- c. γ-Subunit
- d. δ-Subunit

25. Steroid hormones influence cellular activities by .....
- a. Activating cyclic AMP located outside the cell
- b. Using calcium ions as a second messenger
- c. Activating cyclic AMP located inside the cell
- d. Binding to DNA and forming a gene-hormone complex.

26. One of the following is not used as a second messenger by hormones:
- a. mRNA.
- b. cAMP.
- c. Calcium ions.
- d. Inisotol triphosphate.

27. Water-soluble hormones exhibit the shortest .....
- a) half-life.
- b) activation time.
- c) Molecule.
- d) chain of amino acids.

28. Nodular goiter is characterized by the following features EXCEPT:
- a. Iodine deficiency plays role in etiology.
- b. There is repeated hyperplasia and involution.
- c. There is deficient thyroid hormone production.
- d. There is decreased TSH stimulation.

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29. The following complication is almost exclusive for type 1 diabetes mellitus (IDDM):
a. Hyperosmolar nonketotic coma.
b. Diabetic ketoacidosis.
c. Atherosclerosis.
d. Diabetic nephropathy.

30. Sheehan's syndrome is:
a. Irradiation damage of pituitary gland.
b. Scarred pituitary adenoma.
c. Post partum pituitary necrosis.
d. Surgical removal of pituitary gland.

31. Conn's syndrome is:
a. Chronic hypercortisolism.
b. Adrenogenital syndrome.
c. Secondary hyperaldosteronism.
d. Primary hyperaldosteronism.

32. What is the most common cause of Cushing's syndrome?
a. Ectopic ACTH production.
b. Glucocorticoid treatment (iatrogenic).
c. Pituitary adenoma.
d. Adrenal adenoma.

33. What is the most common cause of hyperthyroidism?
a. Toxic multinodular goiter.
b. Thyroiditis.
c. Grave's disease.
d. Toxic thyroid adenoma.

34. Which of the following is the most likely complication of insulin therapy?
a. Delusional hyponatremia.
b. Hypoglycemia.
c. Increased bleeding tendency.
d. Pancreatitis.
e. Severe hypertension.

35. Which one of the following drugs promotes the release of endogenous insulin?
a. Acarbose
b. Pioglitazone
c. Glimpride
d. Metformin
e. Miglitol.

36. Propranolol can be used in hyperthyroidism:
a. As short-term symptomatic therapy until full effect of carbimazole.
b. As long-term therapy after thyroidectomy.
c. In patients not responding to carbimazole.
d. To potentiate the effect of radioactive iodine.
e. In asthmatic patients with hyperthyroidism.

37. Carbimazole acts by inhibiting:
a. Iodide trapping.
b. Oxidation of iodide.
c. Proteolysis of thyroglobulin.
d. Synthesis of thyroglobulin protein.
e. Action of TSH on thyroid.

38. A 65-year-old man with multinodular goiter is scheduled for a near-total thyroidectomy. Which of the following drugs will be administered for 10–14 d before surgery to reduce the vascularity of his thyroid gland?
a. Levothyroxine.
b. Liothyronine.
c. Lugol's solution.
d. Prednisone.
e. Radioactive iodine.

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39. An 18 years old male student (wt. 48 kg and height 155 cm) complained of polyurea, polydypsia, loss of weight, easy fatigability and recurrent urinary tract infection during the last three months. Clinical and laboratory investigations reveal fasting plasma glucose 280 mg/dl (15.3 mmol/L), HbA1c was 14% and glucose in urine was ++ which conclude the diagnosis of diabetes mellitus. What is the most appropriate insulin regimen for tight control of diabetes mellitus in this patient:

a. Morning injections of mixed insulin lispro and insulin aspart.
b. Evening injections of mixed regular insulin glargine.
c. Morning and evening injections of regular insulin, supplemented by small amounts of NPH insulin at mealtimes.
d. Evening injections of insulin glargine, supplemented by small amounts of insulin lispro at meal times.
e. Morning injection of NPH insulin and evening injection of regular insulin.

40. A 55 years old obese lady discovered to have random blood glucose 260 mg/dl during screening at 100 million health and her fasting blood glucose later was 160 mg/dl. She was told that she has type 2 DM. What is the next step?

a. Just follow up.
b. Metformin should be started.
c. She can be given a small dose sulphonyl urea.
d. Pioglitazone is given to improve insulin resistance.
e. Long acting insulin at bed time.

Good Luck ☺

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